TABLE 6-continued

	Polyester		
	Comparative Example 1	Comparative Example 2	Comparative Example 3
Film/Can Property			
Thickness (μm)	25	25	25
Thickness irregularity (%)	10	5	13
Refractive index in the direction of width	1.508	1.497	1.521
Surface roughness (μm) Ra	0.017	0.013	0.010
Rt	0.286	0.145	0.155
Carboxyl terminal group (equivalence/ton)	41	34	40
DSC peak (° C.)	185	197	176
Formability a	B	B	A
b	C	C	B
Scrape resistance	C	B	B
Impact resistance	D	C	C
Taste property	C	B	C

Note) In the table, values of wt. % of ethylene terephthalate unit and ethylenenaphthalate unit were calculated in the form where diethylene glycol components were added

INDUSTRIAL APPLICABILITY

The biaxially stretched polyester film for forming containers of the present invention is not only excellent in the formability during formation into cans or the like, but has excellent properties in taste property, particularly, the taste property after the retorting, and may be suitably used for containers produced by forming process and, particularly, for metallic cans.

We claim:

1. A biaxially stretched polyester film for forming a container, characterized by being formed of a polyester substantially consisting of an ethylene terephthalate unit and an ethylene naphthalate unit, the refractive index in the direction of thickness of the film being 1.5 or greater.

2. A biaxially stretched polyester film for forming a container, according to claim 1, wherein the melting point is 240–300° C., and carboxyl terminal groups are present in 10–50 equivalence/ton.

3. A biaxially stretched polyester film for forming a container, according to claim 2, wherein the melting point is 246–300° C.

4. A biaxially stretched polyester film for forming a container, according to claim 1, wherein the ethylene terephthalate unit is present in 50–99% by weight, and the ethylene naphthalate unit is present in 1–50% by weight, and wherein the refractive index in the direction of thickness of the film is 1.5–1.6.

5. A biaxially stretched polyester film for forming a container, according to any one of claims 1–4, wherein the refractive index in the direction of thickness of the film is 1.52–1.6.

6. A biaxially stretched polyester film for forming a container, according to claim 5, wherein the relaxation time of a carbonyl portion by structure analysis by solid high resolution NMR is 270 msec or longer.

7. A biaxially stretched polyester film for forming a container, according to claim 6, characterized in that a DSC peak is present at 220° C. or lower.

8. A biaxially stretched polyester film for forming a container, according to claim 7, characterized by containing 0.005–10% by weight of particles wherein the volume average particle diameter is 0.005–5 μm and the relative standard deviation σ expressed by the expression below is 0.5 or less:

$$\sigma=(\Sigma(Di-D)^2/n)^{1/2}/D$$

$$D=\Sigma Di/n$$

where

σ: relative standard deviation

D: number average particle diameter (μm)

Di: particle diameter (μm)

n: number of particles (number).

9. A biaxially stretched polyester film for forming a container, according to claim 8, containing 0.01–5% by weight of particles wherein the volume average particle diameter is 0.01–5.0 μm and the relative standard deviation is 0.3 or less.

10. A biaxially stretched polyester film for forming a container, according to claim 9, wherein the length/breadth ratio of the particles is 1.0–1.2, and the Mohs hardness thereof is less than 7.

11. A biaxially stretched polyester film for forming a container, according to claim 10, characterized in that a metallic carboxylate salt is present on surfaces of the particles in an amount of 10^{-5} mol or more relative to 1 g of the particles.

12. A biaxially stretched polyester film for forming a container, according to claim 10, characterized in that the particles are aluminum silicate particles having the following composition:

$$0.9 \leqq Si \leqq 1.5$$

$$0.1 \leqq Al \leqq 0.8$$

$$0.1 \leqq M \leqq 0.8$$

$$0.8 \leqq M/Al \leqq 1.5$$

where

Si: number of moles of silicon atoms in 100 g of the particles,

Al: number of moles of aluminum atoms in 100 g of the particles,

M: number of moles of alkaline metal atoms in 100 g of the particles.

13. A biaxially stretched polyester film for forming a container, according to claim 12, wherein the aluminum silicate particles are substantially amorphous.

14. A biaxially stretched polyester film for forming a container, according to claim 13, characterized in that the

volume average particle diameter Dw (μm) and the specific surface area S (m^2/g) of the aluminum silicate particles satisfy the relationship of $S \geqq 3.5/Dw$.

15. A biaxially stretched polyester film for forming a container, according to claim 14, characterized in that the strength (S_{10}) at 10% deformation of the aluminum silicate particles satisfies the relationship of:

$$5\ \mathrm{kgf/mm^2} \leqq S_{10} \leqq 40\ \mathrm{kgf/mm^2}.$$

16. A biaxially stretched polyester film for forming a container, according to claim 15, wherein the particles are organic macromolecular particles.

17. A biaxially stretched polyester film for forming a container, according to claim 16, wherein the strength (S_{10}) at 10% deformation of the organic macromolecular particles satisfies the relationship of:

$$0.5\ \mathrm{kgf/mm^2} \leqq S_{10} \leqq 15\ \mathrm{kgf/mm^2}.$$

18. A biaxially stretched polyester film for forming a container, according to claim 17, characterized by containing 0.0001~1% by weight of an anti-oxidizing agent.

19. A biaxially stretched polyester film for forming a container, according to claim 1, characterized in that the film is formed after being thermally laminated on a metallic sheet.

20. A method of producing a biaxially stretched polyester film for forming a container defined in claim 1, characterized by separately producing polyethylene terephthalate and polyethylene naphthalate, and then kneading them to obtain a mixture of polyethylene terephthalate and polyethylene naphthalate, and producing a film from the mixture.

21. A method of producing a biaxially stretched polyester film for forming a container, according to claim 20, characterized in that the number of crystal melting peaks of the mixture is one.

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